Diminishing Delinquency: Social Support as a Moderator Between Exposure to Community Violence and Delinquency in Adolescents

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Research Article

Keywords: exposure to community violence, delinquency, social support, adolescents

Posted Date: January 27th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-8696580/v1

Additional Declarations: The authors declare no competing interests.

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Child & Youth Care Forum

Abstract

BACKGROUND: Adolescents experience community violence at concerning rates in the United States. Exposure to community violence (ECV) often portends negative outcomes, like delinquency, but social support has been found to lessen such outcomes in youth exposed to similar experiences. **OBJECTIVE:** Expanding on the buffering hypothesis, we assessed whether social support could lessen delinquency associated with ECV. **METHODS:** We examined the roles of family, friend, and adult social support as moderators between primary and secondary ECV (PECV, SECV) and delinquency in a large U.S.-based sample. Negative binomial regressions were used to determine the effects of ECV and social support on delinquency and to assess the impact of cross-product interactions between ECV and social support on delinquency. **RESULTS**: ECV was positively associated with delinquency. All forms of social support were negatively associated with delinquency. Initial moderation models suggested that at higher levels of family and adult support, the positive associations between ECV and delinquency increased. Upon reinterpretation, we found that ECV moderated the effects of family and adult support on delinquency such that their protective effects were diluted as PECV and SECV increased. Conversely, ECV did not moderate the effect of friend social support on delinquency. **CONCLUSIONS**: ECV's moderation of the associations between family and adult social support and delinquency outlines its deleterious impact despite the presence of such supports. As ECV did not moderate the association between friend social support and delinquency, friend social support may be a viable avenue to consistently reduce the negative effects of ECV and delinquency.

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Introduction

The significance of community violence lies in its pervasiveness within United States neighborhoods and its impact on adolescents' psychosocial development (Affrunti et al., 2018; Wright et al., 2017). In 2022, approximately 3.5 million Americans aged 12 or older witnessed at least one violent crime (Thompson & Tapp, 2023). Unfortunately, exposure to community violence (ECV) has been linked to a litany of negative outcomes in adolescents, the likes of which include anxiety, post-traumatic stress disorder (PTSD; Darawshy et al., 2020; Lee et al., 2020; Wright et al., 2017), poor academic achievement, and delinquency (Chen et al., 2016). This trend remains regardless of adolescents' direct victimization (primary exposure to community violence; PECV) or their witnessing/hearing about violence in their community (secondary exposure to community violence; SECV; Affrunti et al., 2018). The prevalence of ECV and its associated consequences are so severe that many scholars have labeled it a public health crisis (Affrunti et al., 2018; Darawshy et al., 2020; Humm et al., 2018).

Delinquency is an important outcome of ECV that requires special attention given its own overwhelming prevalence among youth and the negative sequela that follow. Though engagement in delinquency is normative for adolescents (Micalizzi et al., 2019), high levels have been linked to increased high school dropout rates (Peguero, 2011), failure to transition to independent living (Makarios et al., 2015), and increased criminal engagement and adulthood arrests (Mercer et al., 2016). Conversely, those who abstain from such behaviors may have better employment and mental health outcomes as adults (Mercer et al., 2016). Evidently, delinquency's effects are not limited to adolescence but manifest throughout the life course and permeate into various domains. Despite the independent and joint importance of ECV and delinquency, their association has been less explored, especially to address their shared outcomes. Extant literature has found that social support can reduce adolescent delinquent engagement (Defoe et al., 2021; Mercer et al., 2016) and buffer against stressful life events like ECV (Szkody & McKinney, 2019). Additionally, adolescents who engage with prosocial agents (e.g., parents, teachers) have been found to report lower incidences of delinquency (Liu & Miller, 2020; Shetgiri et al., 2016), whilst those who *do* engage in delinquency often hold weaker social bonds (Mercer et al., 2016). These findings demonstrate the various

benefits of social support on adolescent well-being and functioning and warrant further investigation into the prospective role of social support as a protective factor between ECV and delinquency.

Exposure to Community Violence

Santacrose and colleagues' (2021) systematic review on the interplay between socioecological factors, ECV, and the racial disparities Latinx youth experience defines ECV as a form of interpersonal violence (experienced firsthand or witnessed) that occurs between unrelated persons in a community setting. When discussing ECV, a notable distinction lies in whether the experience stems from direct victimization (e.g., being assaulted or robbed), known as PECV, or if it was experienced second-hand (e.g., witnessing gang violence, hearing about neighborhood crime), known as SECV. Though studies that specifically investigate the distinction between PECV and SECV are lacking, prior work has established that both forms are conceptually different and may affect adolescents through distinct mechanisms (Ceballo et al., 2022). This distinction in form is important to reach a more granular understanding of the potentially differing effects of PECV and SECV and the mechanisms through which they affect youth.

As mentioned, ECV is a particularly pressing issue in the United States as prevalence rates exceed that of other industrialized nations (Affrunti et al., 2018) with adolescents particularly vulnerable (Rubens et al., 2018). Adolescents of color, mainly Latinx and African American youth (Rubens et al., 2018; Santacrose, et al., 2021; Schilling et al., 2007), and adolescents who live in urban centers are especially vulnerable as they are more likely to experience ECV (Lee et al., 2020; Santacrose et al., 2021). Existing research highlights various negative outcomes linked to ECV, emphasizing its pervasive and multifaceted nature. Studies have found that ECV can negatively affect physical health outcomes (Ford & Browning, 2014), academic achievement, and mental health outcomes (Lee et al., 2020). Though these consequences are of great significance, another significant but less explored outcome is adolescent delinquent engagement.

Delinquency

The link between ECV and delinquency is a compound issue as both constructs can result in notable undesirable effects. The present study, informed by Chen and colleagues (2016), defines delinquency as minor criminal or deviant behavior carried out by youth. Examples of criminal behavior include shoplifting, destruction of property, and assault (Defoe et al., 2021), and deviant, non-criminal behaviors include lying to parents (Liu & Miller, 2020) and cheating in school (Finkelhor & Turner, 2014). With over 700,000 juveniles arrested annually for

such behaviors in the United States (Freelin et al., 2023), a better understanding of the mechanisms behind such behaviors is needed to mitigate these acts, especially as adolescents exposed to ECV are more likely to engage in delinquent behaviors (Rubens et al., 2018).

During adolescence, youth experience an increase freedom, major life transitions (e.g., physiological changes, school changes), and increasingly value peer relationships (Jackson et al., 2023). These changes – paired with a surge in unstructured, unsupervised time with peers– mix to create an environment that can promote delinquent engagement. Communities where violence is prevalent also experience higher levels of poverty and lack neighborhood assets (e.g., libraries, parks) necessary to adequately stimulate children in structured environments, which can further promote delinquency (Smith et al., 2016). This emphasizes the link between ECV and adolescent delinquent behaviors. Researchers also theorize that delinquent engagement may stem from adolescents' desire to conform as they seek to establish their social identity and prioritize the opinions of their peers (Defoe et al., 2021). Youth may mimic peers who engage in delinquency in hopes of avoiding reproach or being ostracized, outlining the importance of peer networks during this phase (Mercer et al., 2016). In all, adolescents' environment and those around them play a critical role in their delinquent engagement.

Importantly, adolescents who engage in higher levels of delinquency often experience a variety of negative outcomes (e.g., poor academic and health outcomes) concurrently as well as later in adulthood (Evans et al., 2016; Sibley et al., 2011). Though not all adolescents who experience ECV engage in delinquency and vice versa, significant overlap in their consequences (e.g., poor educational outcomes, negative social outcomes) reinforces the notion of shared mechanisms linking these phenomena. Psychological, social, and life prospects impacted by ECV become markedly worse when adolescents engage in delinquent behaviors. Naturally, these widespread effects justify the label of "public health crisis" (Affrunti et al., 2018; Darawshy et al., 2020; Humm et al., 2018). Given the importance of adolescents' support networks in their delinquent engagement (e.g., peers, family), we propose that social support may act as a protective factor and may lessen the association between ECV and delinquency, improving outcomes for adolescents concurrently and into adulthood.

The Buffering Hypothesis: Social Support as a Protective Factor

The buffering hypothesis (Cohen & Willis, 1985) is a prominent theoretical model that outlines the benefits of social support in mitigating the harmful effects of stress (Haines et al., 1991; Rafaelli et al., 2013; Szkody & McKinney, 2019). Social support – defined as an interactive process in which individuals feel valued and connected

to a social network (Tomás et al., 2020) – has been found to protect against negative outcomes of stressful life events, like ECV (Rafaelli et al., 2013; Szkody & McKinney, 2019). It also has been found to decrease one's risk for depression, improve academic adjustment, reduce substan`ce abuse (Camara et al., 2017), and mitigate adolescent delinquent engagement (Defoe et al., 2021; Mercer et al., 2016; Smith et al., 2016). Further, youth with friends who abstain from delinquent behaviors also tend to abstain themselves, whereas those who commit delinquent acts often exhibit poorer social bonds (Mercer et al., 2016).

As adolescents possess diverse support networks (e.g., friends, family, teachers, coaches), distinguishing between roles may elucidate differing effects on their delinquent engagement. For example, while peer/friend support has been found to influence risk-taking behavior, lessen emotional distress, and aid in problem solving (Brady et al., 2009), community social support has been noted to boost resilience (Camara et al., 2017). Further, while family support may improve academic performance (Tomás et al., 2020) and lessen depressive symptoms (Rafaelli et al., 2013), teacher support has been found to lower the risk of bullying (Tomás et al., 2020). Importantly, leveraging social support aligns with multisystemic treatment (MST) for adolescents. MST is an intervention aimed at reducing juvenile delinquency through within-community resources by fostering prosocial relationships and a more holistic focus on multiple aspects of youths' lives (e.g., school, family; Tighe et al., 2012; Osher et al., 2003). Research on MST has found it to be both efficacious and effective (Asscher et al., 2014; May et al., 2014), with lower rates of recidivism in youth who engaged in high levels of delinquency, and less severe acts of delinquency when recidivism *did* occur (Bourdain et al., 1995). Treatments like MST are rooted in keeping offending juveniles in their communities and building systems of support rather than following punitive practices. Though more often implemented in adolescents with more severe delinquent records, the basis of MST can be applied in less severe cases by promoting the importance of social support to reduce adolescent delinquent engagement. Additionally, consideration for various sources of social support aligns with established work that highlights the significance of youth's networks and environment in general (e.g., ecological systems theory; Bronfenbrenner, 1979). Family, parents in particular, play an important role in shaping adolescent behavior, while peer relationships become increasingly important. Non-parent adult relationships can also play an important role in adolescents' ability to engage with their environment. Thus, these three sources play a critical role in the way youth interpret and navigate their environment.

In sum, adolescents' support networks are not only important in how they engage with the world, but distinct actors can affect youth in different ways. Thus, a granular investigation of the effects of social support is needed to understand if certain kinds of support may not only be better suited to reduce delinquent engagement, but also to lessen the impact of ECV. By interrogating the dynamics between these constructs, the present study aims to addresses a timely and important public health concern.

Hypotheses

The present study examined the potential moderating effects of family, friend, and adult social support on the association between ECV (both PECV and SECV) and delinquency. We conducted a secondary data analysis on an adolescent subset of the National Survey of Children's Exposure to Violence III (NatSCEV III) dataset. In line with existing literature, (1) we predicted that both PECV and SECV would be associated with more delinquent engagement in adolescents. (2) We also predicted that friend, family, and adult social support would be associated with less delinquent engagement. (3) Lastly, we hypothesized that family, friend, and adult social support would emerge as moderators between ECV (PECV and SECV) and delinquency where social support would lessen adolescents' engagement in ECV-associated delinquency.

Methods

Participants

The present study used data from the NatSCEV III, collected between August 2013 and April 2014 (Finkelhor & Turner, 2016). The NatSCEV III sought to document lifetime and one-year incidence rates of childhood victimization across race/ethnicity, gender, and developmental stages. Data were collected from a nationally representative sample of 4,000 participants from the contiguous United States, excluding New Hampshire. Participants were included in the present study if (1) they were aged 12-17 (n = 1,615) at the time of data collection, (2) completed all items of the Juvenile Victimization Questionnaire (JVQ) and the Community Disorder, Delinquency, and Social Support sections of the NatSCEV III interview questionnaire, and (3) if demographic information about age, race/ ethnicity, gender, and household income was reported. Additional information about study recruitment, the overall sample, and questionnaire procedures can be found in Turner et al. (2016). The current study involved the analysis of de-identified data and was thus exempt from IRB review. Our subsample originally consisted of 1,615 adolescents aged 12-17 years old (see Tables 1 and 2 for descriptive statistics and demographics, respectively). We excluded n = 10 respondents who did not provide race/ ethnicity data

and $n = 4$ respondents who identified as Pacific Islanders due to their impact on analyses stemming from low counts. We were subsequently left with 1,601 participants.

Measures

Demographics

Demographic variables used in the present study included age, race/ ethnicity (White, Black, Hispanic, Asian, American Indian, Alaskan Native, or Native Hawaiian or Pacific Islander), gender (male, female), and household income (see Table 1). In the original NatSCEV III survey, household income was categorized as less than $5,000, $5,000 to less than $10,000, $10,000 to less than $15,000, $15,000 to less than $20,000, $20,000 to less than $30,000, $30,000 to less than $40,000, $40,000 to less than $50,000, $50,000 to less than $75,000, $75,000 to less than $100,000, and $100,000 or more. Our study collapsed income into four categories consistent with the 2023 U.S. tax brackets (Durante, 2022) and the 2021 U.S. median income (Semega & Kollar, 2022). These categories include less than $20,000, $20,000 to less than $40,000, $40,000 to less than $75,000, and $75,000 or more. Aligning our family income levels with U.S. tax brackets allows us to pool participants into meaningful groups that are affected by policy (i.e., taxes). This allows for more useful interpretations as our levels represent groups with real world differences rather than arbitrary divisions.

Table 1

Sample Demographics and descriptive statistics

	n *(%)*	PECV	SECV	Delinquency	Family SS	Friend SS	Adult SS
Female	799 (49.5%)	1.88 (2.28)	1.98 (2.08)	0.87 (1.62)	7.06 (1.28)	7.07 (1.39)	4.86 (1.40)
Male	816 (50.5%)	2.60 (2.40)	2.31 (2.30)	1.40 (2.26)	7.14 (1.19)	6.66 (1.52)	4.68 (1.51)
White	1,250 (77.4%)	2.21 (2.36)	1.96 (2.00)	1.13 (1.98)	7.12 (1.22)	6.92 (1.45)	4.83 (1.44)
Black	125 (7.7%)	2.63 (2.39)	3.34 (2.76)	1.08 (1.75)	7.24 (1.16)	6.47 (1.52)	4.63 (1.56)
Hispanic	157 (9.7%)	2.38 (2.53)	2.83 (2.74)	1.29 (2.23)	6.80 (1.54)	6.61 (1.66)	4.51 (1.42)
Asian	35 (2.2%)	1.80 (2.18)	1.51 (2.93)	0.69 (1.39)	7.20 (0.96)	7.03 (1.40)	4.57 (1.29)
American Indian	14 (0.9%)	2.86 (2.77)	2.43 (2.90)	2 (2.72)	7.21 (1.12)	7.50 (0.65)	4.36 (1.82)
Mixed Race	20 (1.2%)	1.15 (1.46)	2.05 (1.93)	0.75 (1.62)	7.40 (0.68)	6.85 (1.31)	4.55 (1.82)
Subsample Total	1,615	2.24 (2.37)	2.15 (2.20)	1.13 (1.98)	7.11 (1.24)	6.87 (1.46)	4.77 (1.46)

Note. Column " *n"* displays counts whilst subsequent columns display means with standard deviations in parentheses. Means and standard deviations were calculated by summing the number of unique kinds of exposures and delinquent acts endorsed by adolescents.

Exposure to Community Violence

ECV was measured using self-report items from the Juvenile Victimization Questionnaire (JVQ; Finkelhor et al., 2005) and Community Disorder variable area. Twenty items were culled from the JVQ (e.g., "At any time in your life, was anyone close to you murdered, like a friend, neighbor or someone in your family?") in addition to six items from the Community Disorder screener (e.g., "Have you ever gone to a school where a kid brought a gun or knife to school?"). Item responses included "Yes," "No," "Not Sure," and "Refused," where "Yes" was coded as 1, "No" as 0, and "Not sure" and "Refused" were coded as missing. Each ECV item indicated a unique type of community violence exposure and thus did not account for multiple occurrences of the same incident (e.g., being robbed once vs. being robbed multiple times within the same year). Additionally, not all forms of ECV are of the same intensity (e.g., witnessing a robbery vs. witnessing a murder). Items were divided into a PECV subscale (n = 14 items) and an SECV subscale (n = 12 items). See Supplementary Information for a list of all included items. PECV consisted of direct victimization (e.g., being robbed or sexually assaulted), and SECV involved seeing, hearing, or having knowledge of others' experiences with ECV within one's community (e.g., hearing of a neighbor being arrested or living in a neighborhood with gangs). Scores for PECV and SECV were computed by summing item responses for each subscale where higher scores denoted more incidences of exposure to unique types of community violence. Possible scores ranged from 0-14 for PECV and 0-12 for SECV. Both scales demonstrated acceptable internal consistency in the present sample (Cronbach's $\alpha = .76$, Cronbach's $\alpha = .75$, respectively).

Delinquency

Delinquency was assessed using 19 original NatSCEV III items that interrogated specific delinquent behaviors and required respondents self-report whether they engaged in such behaviors within the past 12 months. Respondents were prefaced with, "In the last year, did you…" and asked, "On purpose break, damage or destroy something that belonged to someone else?" for example. Item responses included "Yes," "No," "Not Sure," and "Refused," where "Yes" was coded as 1, "No" as 0, and "Not sure" and "Refused" were coded as missing. A total delinquency engagement score was calculated by summing all item scores where scores ranged from 0-19. Higher scores on the delinquency scale indicated higher endorsement of unique delinquent behaviors over the past 12 months. Though an adolescent may have engaged in a specific act more than once over the 12 months prior to completing the questionnaire, their score would remain as "1" as items are binary in querying engagement rather than frequency. This measure also does not account for differing levels of intensity in delinquent acts (e.g., cheating

in school vs. committing a robbery). Prior studies have successfully used this 19-item delinquency screener to assess delinquency in youth samples (Van Berkel et al., 2018; Turner et al., 2016). This scale demonstrated acceptable internal consistency in the present sample (Cronbach's α = .74).

Social Support

Adolescent perceived social support was measured using 8 items from the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988) and three original items from the NatSCEV III questionnaire that assessed adult social support. All items were self-reported. The MSPSS is comprised of 3 subscales including a friend social support subscale (*n* = 4 items), a family social support subscale (*n* = 4 items), and a significant other social support subscale. Only the friend and family subscales were administered during the NatSCEV III data collection process. The NatSCEV III-original adult support subscale (*n* = 3 items) measured non-parent adult support in participants' lives. Items were rated on a 3-point Likert scale with choices including "Never" (0), "Sometimes" (1), and "Often" (2). "Not sure" and "Refused" were coded as missing. Subscale items were summed to create the 3 subscale scores – friend, family, and adult social support. See Supplementary Information for more details on subscale items. Scores ranged from 0-8 on the friend and family subscales, and from 0-6 on the adult subscale. All subscales demonstrated adequate internal consistency in the present sample (friend Cronbach's α = .72; family Cronbach's α = .66; adult Cronbach's α = .76). The friend and family MSPSS subscales have been used successfully in prior studies (e.g., Bruwer et al., 2008) and have demonstrated good internal validity (family: Cronbach's α = .87; test-retest = .85, friend Cronbach's α = .85).

Statistical Analyses

Given our delinquency variable consisted of count data with a zero-inflated distribution and showed overdispersion, we used negative binomial regressions instead of Poisson models to determine the impact of ECV (PECV, SECV) and social support (family, friend, adult) on delinquency (see Supplementary Information for variable distributions). A zero-inflated model was checked to compare the ratio of observed zeros to expected zeros. This zero-inflated model did not provide a better explanation of our excess in zeros, thus directing us to use negative binomial regressions rather than zero-inflated negative binomial. In each model, delinquency was the outcome variable with either PECV or SECV as the predictor. Covariates in both models included age, gender (male/female; male reference), race/ ethnicity (White, Black, Hispanic, Asian, American Indian, Mixed Race; White reference), and household income (less than $20,000, $20,000 to less than $40,000, $40,000 to less than $75.000, and $75,000

or more; $75,000 or more reference). Reference levels were selected based on the level with the highest count within each categorical variable.

To determine if social support moderated the effects of PECV and SECV on delinquency, we ran six negative binomial regressions with delinquency as the outcome and a cross-product interaction term between either PECV or SECV and one of our social support constructs (i.e., friend, family, and adult) as the predictor. Covariates in each model included age, gender (male/female; male reference), race/ ethnicity (White, Black, Hispanic, Asian, American Indian, Mixed Race; White reference), and household income (less than $20,000, $20,000 to less than $40,000, $40,000 to less than $75.000, and $75,000 or more; $75,000 or more reference). Simple slope analyses were subsequently run to better interpret moderation effects. RStudio Version 4.2.3 was used for data processing and analyses (Posit Team, 2023).

Results

Descriptive Information

Adolescents reported an average age of 14.7 years (*SD* = 1.66) with 50.5% being male, 77.4% White (non-Hispanic), 9.7% Hispanic, 7.7% Black, 2.2% Asian, 1.2% Mixed, and 0.9% American Indian. Our sample was disproportionately White compared to current U.S. demographics as 50% of current adolescents in this age range identify as White (*U.S. Teen Demographics*, n.d.). It also skewed affluent as only 7.2% of adolescents came from households that earned less than $20,000, 10.3% came from households that earned $20,000 to less than $40,000, 19.7% came from households that earned $40,000 to less than $75,000, and 55.7% came from households that earned $75,000 or more (see Table 2 for more details).

Table 2

Adolescent Demographics

	Male (*n*, %)	Female (*n*, %)	Total (*n*, %)
White (non-Hispanic)	642 (40.1%)	608 (38%)	1250 (78.1%)
Hispanic	89 (5.6%)	68 (4.2%)	157 (9.8%)
Black	47 (2.9%)	78 (4.9%)	125 (7.8%)
Asian	14 (0.9%)	21 (1.3%)	35 (2.2%)
Mixed	8 (0.5%)	12 (0.7%)	20 (1.2%)
American Indian	8 (0.5%)	6 (0.4%)	14 (0.9%)
Total	808 (50.5%)	793 (49.5%)	1,601 (100%)
< $20,000	60 (3.7%)	56 (3.5%)	116 (7.2%)
$20,000-<$40,000	75 (4.7%)	90 (5.6%)	165 (10.3%)
$40,000-<$75,000	160 (10%)	156 (9.7%)	316 (19.7%)

$75,000+	469 (29.3%)	422 (26.4%)	891 (55.7%)
Missing	44 (2.7%)	69 (4.3%)	113 (7%)
Total	808 (50.5%)	793 (49.5%)	1,601 (100%)

Adolescents reported an average of 2.24 (*SD* = 2.37) unique types of PECV experienced in their lifetime, with 69.4% of respondents noting at least one incident of direct victimization. A mean of 2.15 (*SD* = 2.20) unique types of SECV were also reported during respondents' lifetime, with 73.3% of respondents indicating they witnessed or heard about at least one violent crime in their community ever. One adolescent reported experiencing 14 unique kinds of PECV (the maximum value for our measure of SECV), and six adolescents reported experiencing 12 unique kinds of SECV (the maximum for our measure of SECV). Four-hundred ninety adolescents (30.6%) reported no incidences of PECV, and 428 reported no incidences of SECV (26.7%). Overall, there were 7,029 unique incidences of ECV experiences recorded across 1,601 participants; 3,591 unique incidents of PECV and 3,438 unique incidents of SECV. Adolescents, on average, engaged in 1.14 (*SD* = 1.99) unique acts of delinquency within the 12 months prior to responding, with a majority (57.3%) abstaining from such behaviors. Our social support subscales yielded mean scores of 7.10 (*SD* = 1.24) for family support, 6.86 (*SD* = 1.47) for friend support, and 4.77 (*SD* = 1.46) for adult support. Thus, adolescents reported high levels of all kinds of social support.

Main Effects: The Associations Between ECV, Social Support, and Delinquency

ECV and Delinquency

As negative binomial regressions yield coefficients in log counts, we exponentiated our results to interpret them in a more understandable format – incident rate ratios. We found PECV (p = <.001; IRR = 1.346) and age (p = <.001; IRR = 1.263) to be positively associated with delinquency. Each additional reported incident of PECV was associated with a 34.6% increase in adolescents' expected delinquency. Expected acts of delinquency also increased by 26.3% for each year adolescents aged. Hispanic-identifying adolescents' expected counts of delinquency were 30.4% higher (p = 0.04, IRR = 1.304) than that of White-identifying adolescents. Adolescents who identified as female (p = <.001, IRR = 0.760; 24% decrease), Asian (p = 0.04, IRR = 0.498; 50.2% decrease), or coming from a household that earned between $20,000 and less than $40,000 ($p$ = 0.02, IRR = 0.722; 27.8% decrease) had lower expected counts of delinquency compared to their respective reference groups. See Table 3 for more details.

We also found that SECV *(p < .001, IRR = 1.378)* and age *(p < .001. IRR = 1.236)* were associated with delinquent engagement. Each additional unique incident of SECV and each additional year in age were associated

with increases in adolescents' expected delinquent acts by 37.8% and 23.6%, respectively. Identifying as female (p = <.001, IRR = 0.752; 24.8% decrease), Black (p = .01, IRR = 0.677; 32.3% decrease), Asian (p = .02, IRR = 0.432; 56.8% decrease), or coming from a household that earned between $20,000 and $40,000 ($p$ = .02, IRR = 0.736; 26.4% decrease) were associated with decreases in expected acts of delinquency compared to their respective reference group. See Table 4 for more details. Importantly, both increases in PECV and SECV were associated with increases in adolescent delinquent engagement.

Table 3

Negative Binomial Regression with PECV Predicting Delinquency

	Coeff.	IRR	CI		p-value
			LL	*UL*	
PECV	0.30	1.346	1.31	1.39	<.001***
Age	0.23	1.263	1.20	1.33	<.001***
Gender[1]					<.001***
Female	-0.27	0.760	0.65	0.89	<.001***
Family Income[1]					0.10
< $20,000	-0.15	0.859	0.65	1.14	0.29
$20,000 - < $40,000	-0.33	0.722	0.55	0.94	0.02*
$40,000 - <$75,000	-0.09	0.915	0.76	1.11	0.36
Race[1]					0.08
Black	0.06	1.064	0.80	1.42	0.67
Asian	-0.70	0.498	0.25	0.96	0.04*
American Indian	0.34	1.404	0.69	2.97	0.35
Mixed Race	-0.15	0.863	0.38	1.89	0.73
Hispanic	0.27	1.304	1.01	1.68	0.04*

Note. * < .05, ** < .01, *** <.001.
[1]Categorical variables' significance were calculated using Likelihood Ratio Tests to assess contribution to model fit. 95% confidence intervals were calculated.

Table 4

Negative Binomial Regression with SECV Predicting Delinquency

	Coeff.	IRR	CI		p-value
			LL	*UL*	
SECV	0.32	1.378	1.33	1.43	<.001***
Age	0.21	1.236	1.18	1.30	<.001***
Gender[1]					<.001***
Female	-0.29	0.752	0.65	0.88	<.001***
Family Income[1]					0.09
< $20,000	-0.16	0.855	0.64	1.14	0.28
$20,000 - < $40,000	-0.31	0.736	0.56	0.96	0.02*

$40,000 - <$75,000	-0.15	0.858	0.71	1.040	0.112
Race[1]					0.009**
Black	-0.39	0.677	0.50	0.91	0.010**
Asian	-0.84	0.432	0.22	0.84	0.02*
American Indian	0.35	1.413	0.68	3.02	0.35
Mixed Race	-0.60	0.550	0.25	1.20	0.15
Hispanic	-0.09	0.912	0.70	1.19	0.49

Note. * < .05, ** < .01, *** <.001.
[1]Categorical variables' significance were calculated using Likelihood Ratio Tests to assess contribution to model fit. 95% confidence intervals were calculated.

Social Support and Delinquency

Additional negative binomial regressions were conducted to understand the effects of family, friend, and adult social support on adolescent delinquent engagement. All forms of social support were negatively associated with delinquency (family: p = < 0.001, IRR = 0.751; friend: p = < 0.001, IRR = 0.886; adult: p = < 0.001, IRR = 0.876). Expected acts of delinquency decreased by 24.9%, 11.4%, and 12.4% for each additional reported form of support for family, friend, and adult social support, respectively. These results point to a protective effect where social support may reduce adolescent delinquent engagement (see Supplementary Information for tables of these analyses).

Moderating Effects of Social Support

Models testing the moderating effects of family, friend, and adult social support on the association between ECV and delinquency included the same variables as the main effects models with the addition of a cross-product interaction term between either PECV or SECV and one of family, friend, or adult social support. Results from these six models are reported in Tables 5–10. Analyses indicated that family social support and adult social support moderated the association between PECV and delinquency (p < .001, IRR = 1.028; p = 0.034, IRR = 1.020, respectively) and SECV and delinquency (p = .003, IRR = 1.031; p = 0.013, IRR = 1.025, respectively). Counter to our hypotheses, it appears that as adolescents reported higher levels of family and adult support, the link between ECV and delinquency became stronger in a positive direction. Stated differently, the link between ECV and delinquency (i.e., more ECV being associated with more delinquency) was stronger in adolescents who reported more family and adult social support compared to adolescents who reported less family and adult social support. To better understand these effects given vast literature highlighting the benefits of social support, including our own analyses, we shifted the interpretation of our cross-product interactions to frame family and adult social support as predictors and PECV and SECV as moderators within these same models. With this reinterpretation, our results

pointed toward a dilution in the protective effects of family and adult social support on delinquency as PECV and SECV increased. As ECV increased, the potential protective effects of family and adult social support through diminished.

Models were graphed using the "ggplot2" package in R for further interpretation (Wickham et al., 2016). Social support subscale scores and ECV subscale scores were grouped into lower, middle, and upper tertiles for visualization as we reframed our analyses to include our social support subscales as predictors and ECV subscales as moderators (graphs for our original framing are also included). See Fig. 1a-4b for more details.

Table 5

Negative Binomial Regression for PECV with Family Social Support as a Moderator

	Coeff.	IRR	CI		*p*-value
			LL	*UL*	
PECV	0.09	1.098	0.96	1.26	0.13
Age	0.23	1.258	1.20	1.32	<.001***
Gender[1]					<.001***
Female	-0.30	0.742	0.64	0.87	<.001***
Family Income[1]					0.04*
< $20,000	-0.19	0.826	0.62	1.10	0.19
$20,000 - < $40,000	-0.37	0.693	0.53	0.90	0.006**
$40,000 - <$75,000	-0.11	0.900	0.75	1.09	0.27
Race[1]					0.09
Black	0.09	1.095	0.82	1.46	0.53
Asian	-0.68	0.509	0.26	0.98	0.05
American Indian	0.35	1.416	0.70	2.97	0.33
Mixed Race	-0.90	0.915	0.41	2.00	0.83
Hispanic	0.26	1.297	1.01	1.67	0.04*
Family Social Support	-0.23	0.795	0.72	0.87	<.001***
Family SS*PECV	0.03	1.028	1.01	1.05	<.001***

Note. * < .05, ** < .01, *** <.001.
[1]Categorical variables' significance was calculated using a Likelihood Ratio Test to assess contribution to model fit. 95% confidence intervals were calculated.

Fig. 1a PECV Predicting Delinquency Moderated by Family Social Support

Fig. 1b Family Social Support Predicting Delinquency Moderated by PECV

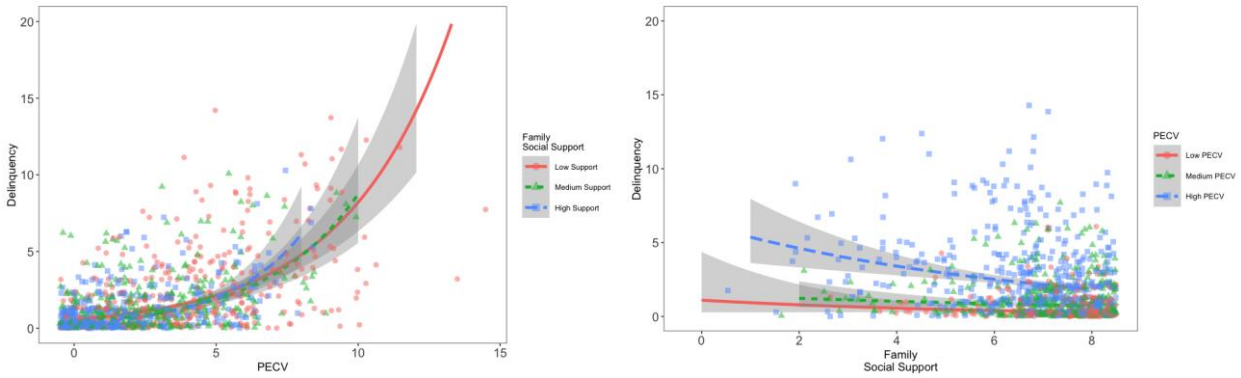


Table 6

Negative Binomial Regression for PECV with Friend Social Support as a Moderator

	Coeff.	IRR	CI		*p*-value
			LL	*UL*	
PECV	0.20	1.221	1.080	1.39	0.001**
Age	0.24	1.270	1.21	1.33	<.001***
Gender[1]					0.002**
Female	-0.25	0.783	0.67	0.91	0.002**
Family Income[1]					<.001***
< $20,000	-0.17	0.840	0.63	1.12	0.07
$20,000 - < $40,000	-0.35	0.708	0.54	0.92	0.010**
$40,000 - <$75,000	-0.09	0.9160	0.76	1.11	0.36
Race[1]					0.08
Black	0.04	1.041	0.78	1.39	0.78
Asian	-0.70	0.498	0.25	0.96	0.048*
American Indian	0.40	1.491	0.73	3.16	0.27
Mixed Race	-0.16	0.851	0.38	1.87	0.70
Hispanic	0.26	1.300	1.01	1.68	0.042*
Friend Social Support	-0.12	0.890	0.82	0.97	0.004**
Friend SS*PECV	0.01	1.014	1.00	1.03	0.13

Note. * < .05, ** < .01, *** <.001.
[1]Categorical variables' significance was calculated using a Likelihood Ratio Test to assess contribution to model fit. 95% confidence intervals were calculated.

Table 7

Negative Binomial Regression for PECV with Adult Social Support as a Moderator

	Coeff.	IRR	CI		*p*-value
			LL	*UL*	
PECV	0.20	1.217	1.11	1.35	<.001***
Age	0.24	1.265	1.21	1.33	<.001***
Gender[1]					<.001***

Female	-0.26	0.771	0.66	0.90	<.001***
Family Income[1]					0.08
< $20,000	-0.16	0.855	0.65	1.13	0.27
$20,000 - < $40,000	-0.34	0.715	0.55	0.93	0.01*
$40,000 - <$75,000	-0.10	0.901	0.75	1.09	0.28
Race[1]					0.08
Black	0.05	1.050	0.79	1.40	0.73
Asian	-0.73	0.484	0.25	0.92	0.04*
American Indian	0.29	1.337	0.66	2.79	0.42
Mixed Race	-0.26	0.772	0.33	1.73	0.55
Hispanic	0.25	1.277	0.99	1.65	0.06
Adult Social Support	-0.17	0.843	0.78	0.92	<.001***
Adult SS*PECV	0.02	1.020	1.00	1.04	0.03*

Note. * < .05, ** < .01, *** <.001.
[1]Categorical variables' significance was calculated using a Likelihood Ratio Test to assess contribution to model fit. 95% confidence intervals were calculated.

Fig. 2a PECV Predicting Delinquency Moderated by Adult Social Support

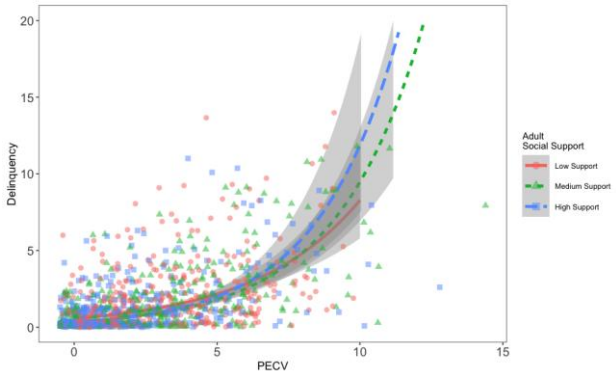


Fig. 2b Adult Social Support Predicting Delinquency Moderated by PECV

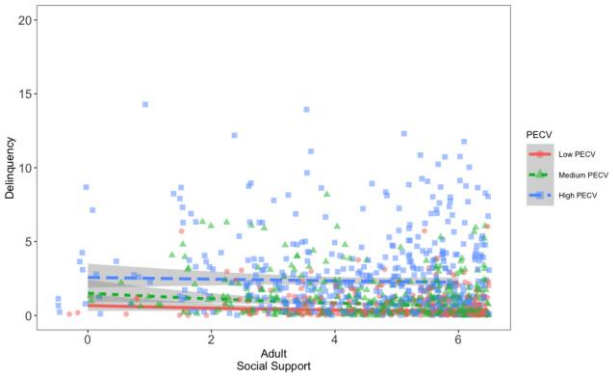


Table 8

Negative Binomial Regression for SECV with Family Social Support as a Moderator

	Coeff.	IRR	CI		*p*-value
			LL	*UL*	
SECV	0.09	1.095	0.94	1.29	0.20
Age	0.21	1.230	1.17	1.29	<.001***
Gender[1]					<.001***
Female	-0.33	0.722	0.62	0.84	<.001***
Family Income[1]					0.009**
< $20,000	-0.27	0.764	0.58	1.02	0.06
$20,000 - < $40,000	-0.38	0.687	0.53	0.90	0.005**

$40,000 - <$75,000	-0.21	0.812	0.67	0.98	0.03*
Race[1]					0.03*
Black	-0.32	0.725	0.54	0.97	0.03*
Asian	-0.80	0.448	0.23	0.87	0.02*
American Indian	0.39	1.469	0.72	3.08	0.28
Mixed Race	-0.49	0.613	0.28	1.33	0.23
Hispanic	-0.08	0.928	0.72	1.20	0.57
Family Social Support	-0.28	0.756	0.69	0.83	<.001***
Family SS*SECV	0.03	1.031	1.01	1.06	0.003**

Note. * < .05, ** < .01, *** <.001.
[1]Categorical variables' significance was calculated using a Likelihood Ratio Test to assess contribution to model fit. 95% confidence intervals were calculated.

Fig. 3a SECV Predicting Delinquency Moderated by Family Social Support

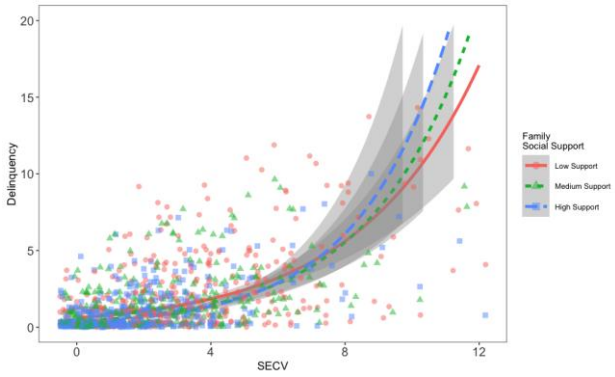


Fig. 3b Family Social Support Predicting Delinquency Moderated by SECV

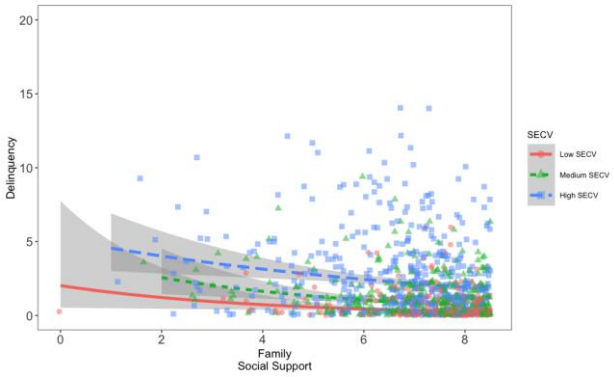


Table 9

Negative Binomial Regression for SECV & Friend Social Support as a Moderator

	Coeff.	IRR	CI		*p*-value
			LL	*UL*	
SECV	0.32	1.374	1.17	1.63	<.001***
Age	0.22	1.250	1.19	1.31	<.001***
Gender[1]					<.001***
Female	-0.26	0.774	0.66	0.90	<.001***
Family Income[1]					0.04*
< $20,000	-0.19	0.826	0.62	1.10	0.19
$20,000 - < $40,000	-0.34	0.712	0.55	0.93	0.01*
$40,000 - <$75,000	-0.16	0.855	0.71	1.04	0.11
Race[1]					0.005**
Black	-0.42	0.660	0.49	0.89	0.006**

Asian	-0.82	0.443	0.22	0.86	0.02*
American Indian	0.41	1.500	0.72	3.20	0.27
Mixed Race	-0.63	0.532	0.24	1.17	0.13
Hispanic	-0.10	0.904	0.70	1.17	0.45
Friend Social Support	-0.10	0.906	0.83	0.99	0.02*
Friend SS*SECV	<0.01	1.000	0.98	1.02	0.99

Note. * < .05, ** < .01, *** <.001.
[1]Categorical variables' significance was calculated using a Likelihood Ratio Test to assess contribution to model fit. 95% confidence intervals were calculated.

Table 10

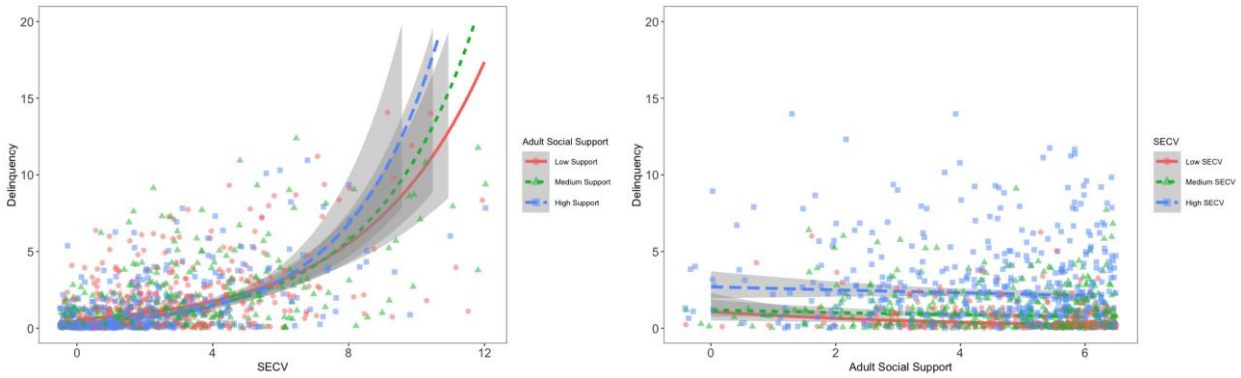
Negative Binomial Regression for SECV & Adult Social Support as a Moderator

	Coeff.	IRR	CI		*p*-value
			LL	*UL*	
SECV	0.20	1.224	1.11	1.36	<.001***
Age	0.22	1.241	1.18	1.30	<.001***
Gender[1]					<.001***
Female	-0.27	0.766	0.66	0.89	<.001***
Family Income[1]					0.06
< $20,000	-0.17	0.848	0.64	1.13	0.25
$20,000 - < $40,000	-0.32	0.730	0.56	0.95	0.02*
$40,000 - <$75,000	-0.17	0.846	0.70	1.02	0.09
Race[1]					0.004**
Black	-0.41	0.664	0.49	0.89	0.007**
Asian	-0.88	0.415	0.21	0.81	0.01*
American Indian	0.27	1.311	0.64	2.78	0.46
Mixed Race	-0.71	0.493	0.22	1.10	0.10
Hispanic	0.13	0.881	0.68	1.14	0.34
Adult Social Support	-0.19	0.828	0.76	0.90	<.001***
Adult SS*SECV	0.02	1.025	1.00	1.05	0.01*

Note. * < .05, ** < .01, *** <.001.
[1]Categorical variables' significance was calculated using a Likelihood Ratio Test to assess contribution to model fit. 95% confidence intervals were calculated.

Fig. 4a SECV Predicting Delinquency Moderated by Adult Social Support

Fig. 4b Adult Social Support Predicting Delinquency Moderated by SECV



Simple slope analyses were conducted for statistically significant moderation results using the "interactions" package in R (Long, 2024). Coefficients for family and adult social support were estimated at zero, the mean, and +1 SD of PECV and SECV (see Tables 11a-12b). Coefficients were then exponentiated to produce IRRs for interpretability and consistency with previous procedures. These analyses confirmed our moderation results: as levels of PECV and SECV increased, the protective effects of family and adult social support on adolescent delinquent engagement were reduced, per increasing IRRs (i.e., each additional reported source of support had a reduced effect in lessening delinquency as ECV increased). At a more granular level, Johnson-Neyman intervals indicated that after more than five unique incidences of PECV, the protective effects of family and adult social support would completely erode (5.85 and 5.48, respectively). One-hundred eighty-nine of our 1,601 adolescent sample reported more than five unique types of PECV (11.8%). Similarly, more than six unique incidences of SECV would diminish the benefits of family social support on delinquency, and more than five unique incidences of SECV would erode the benefits of adult social support on delinquency (6.35 and 5.23, based on our models). One-hundred thirty-two adolescents reported more than five unique types of SECV (8.24%) and 78 reported more than six unique types of SECV (4.87%).

Table 11a

*Simple Slope Analysis for Family Social Support*PECV Interaction*

PECV Value	Family S.S. IRR	Standard Error	*p*-value
0.00	0.79	0.04	<0.001***
2.24	0.84	0.03	<0.001***
4.62	0.90	0.03	<0.001***

Note. * < .05, ** < .01, *** <.001. Family S.S. = Family Social Support. Family Social Support coefficients were estimated at the minimum possible value for PECV (0), the PECV mean, and +1 SD.

Table 11b

*Simple Slope Analysis for Adult Social Support*PECV Interaction*

PECV Value	Adult S.S. IRR	Standard Error	*p*-value
0.00	0.84	0.4	<0.001***
2.24	0.87	0.4	<0.001***
4.62	0.92	0.3	<0.001***

Note. * < .05, ** < .01, *** <.001. Adult S.S. = Adult Social Support. Adult Social Support coefficients were estimated at the minimum possible value for PECV (0), the PECV mean, and +1 SD.

Table 12a

*Simple Slope Analysis for Family Social Support*SECV Interaction*

SECV Value	Family S.S. IRR	Standard Error	*p*-value
0.00	0.76	0.04	<0.001***
2.24	0.81	0.03	<0.001***
4.62	0.87	0.03	<0.001***

Note. * < .05, ** < .01, *** <.001. Family S.S. = Family Social Support. Family Social Support coefficients were estimated at the minimum possible value for PECV (0), the SECV mean, and +1 SD.

Table 12b

*Simple Slope Analysis for Adult Social Support*SECV Interaction*

SECV Value	Adult S.S. IRR	Standard Error	*p*-value
0.00	0.83	0.040	<0.001***
2.24	0.88	0.027	<0.001***
4.62	0.92	0.027	0.01*

Note. * < .05, ** < .01, *** <.001. Family S.S. = Family Social Support. Family Social Support coefficients were estimated at the minimum possible value for PECV (0), the SECV mean, and +1 SD.

Discussion

Exposure to community violence and delinquency are important public health concerns that impact the short- and long-term future of youth. Those exposed to community violence experience a litany of negative psychosocial, physiological, and behavior outcomes, including increased delinquent engagement (Chen et al., 2016; Rubens et al., 2018). Additionally, such behaviors have been linked to a myriad of academic and social problems (Poquiz & Fite, 2018), such as difficulties forming and maintaining friendships (Schilling et al., 2007). The prevalence and negative impact of community violence and delinquency in U.S. neighborhoods, both individually and in tandem, demand research exploring potential protective factors that can stymie their deleterious impact on youth. Research suggests social support may mitigate adverse effects brought on by ECV, potentially reducing

delinquency (Defoe et al., 2021; Mercer et al., 2016). The present study sought to reassess the associations between ECV and social support and delinquency. By building on the buffering hypothesis (Cohen & Wills, 1985), we sought to examine the potential protective, moderating effects of family, friend, and adult social support on the association between PECV and SECV and adolescent engagement in delinquency.

Our analyses confirmed prior work linking ECV (both PECV and SECV) to adolescent engagement in delinquency. As youth were exposed to more community violence, engagement in delinquency increased. While our study does not directly explore the mechanisms linking ECV and delinquency, we underscore the robust relationship between these variables, which may stem from multiple causes. Adolescents exposed to community violence may adopt beliefs that deviant behaviors like delinquency are normative or necessary within their environments (Kennedy & Ceballo, 2016). They may also be more likely to affiliate with peers that engage in violent or illicit activity given the prevalence of delinquency in neighborhoods where ECV is common and the increasing importance of friend/peer relationships during this developmental stage (Chen et al., 2016; Rees & Zimmerman, 2016). Furthermore, ECV may disrupt youth's threat sensitivity and stress response (Kennedy & Ceballo, 2016), which could cause adolescents to be more prone to "flight-or-flight" behaviors that may be characterized as delinquency (e.g., fighting). These behaviors may be further promoted by PTSD symptomatology, which has been found in adolescents exposed to community violence, demonstrating the complex web of factors that affect youth within these circumstances (Lee et al., 2020; Wright et al., 2017). Future research can build on the present study by identifying causal pathways between EVC and delinquency in more racially/ethnically and class diverse samples as the present sample was predominantly White and affluent, with participants overall reporting lower levels of ECV.

Consistent with prior findings, our analyses also found a protective effect between family, friend, and adult social support and delinquency (Liu & Miller, 2020; Rafaelli et al., 2013; Smith et al., 2016; Szkody & McKinney, 2019). Increases in all forms of social support were associated with a decrease in adolescent delinquent engagement. Rooted in the buffering hypothesis, these results emphasize the benefits of social support in combatting delinquent engagement. The pathways through which social support may affect delinquency are numerous. For example, social support creates opportunities for parents, adult mentors, and prosocial peers to model socially appropriate acts and reinforce behaviors such as self-control and empathy that may contribute to less delinquent engagement (Brady, et al., 2009; Camara et al., 2017; Liu & Miller, 2020;). Social support has been found to promote positive outcomes like well-being in adolescents (Chu et al., 2010) and may also increase their sense of self-worth, purpose, and

connection, which could raise the perceived costs of engaging in delinquent behaviors. Receiving support from others may also provide psychosocial resources to help cope with major external stressors (e.g., ECV) that lead to externalizing behaviors (e.g., fighting at school), potentially limiting their impact (Camara et al., 2017). Given these results, we predicted that social support would moderate the association between ECV and delinquency where higher acts of delinquency associated with more ECV would be lessened with increasing levels of social support.

Contrary to this hypothesis, we found that the positive association between ECV and delinquency in adolescents further increased as family and adult social support increased. In other words, family and friend social support did not reduce the negative effects of ECV on delinquency, but rather the effect of ECV on delinquency trended in the opposite direction. As these moderations were tested using cross-product interaction terms, we reframed our interpretation with social support as predictors of delinquency and PECV and SECV as moderators. These results painted a more understandable relationship in line with the body of work that supports the benefits of social support on delinquency. With this reframing, we found that the protective effects of family and adult social support (i.e., their negative association) were diluted as adolescents reported increases in ECV. Simple slope analyses confirmed this interpretation as the benefits of these kinds of social support were noticeably lessened at increasing levels of ECV (i.e., IRRs increased). Despite the many benefits of social support found in the literature and in our own analyses, the impact of ECV may overpower the protective effects family and adult social support yield. As previously mentioned, ECV has been linked with PTSD symptomatology, demonstrating its severity and why it might override the benefits social support. These forms of support may not be strong enough to protect against certain kinds of ECV (e.g., witnessing murder, being a victim of bullying), explaining these results. Johnson-Neyman intervals provided a more in-depth analysis of these moderations. Namely, exposure from about five different sources of ECV was found to fully diminish the benefits of family and adult support. Though a smaller subset of our sample reported exposure to more than five unique types of PECV and SECV, this groups still accounts for an important number of adolescents when scaled up to population levels if trends were to hold. Additionally, as youth from minoritized groups are more likely to experience ECV (Rubens et al., 2018; Lee at al., 2020; Santacrose, et al., 2021; Schilling et al., 2007), these findings may be especially useful in highlighting the disproportionate effects of ECV on these vulnerable populations and can help inform public policy.

Though the effects of family and adult social support were lessened with increasing levels of ECV, friend social support was not affected in the same way. The benefits of friend social support in being associated with less

delinquency were consistently significant across levels of ECV, demonstrating its utility in the face of difficult environmental circumstances. These findings may further outline the importance of peer-to-peer relationships for youth. As previously mentioned, adolescents increasingly value friendships during this phase, even superseding the importance of family and parent influences (Chen et al., 2016; Mercer et al., 2016; Rees & Zimmerman, 2016). Adolescents may be more likely to mirror their friends' behaviors regardless of exposure, emphasizing the importance of positive peer influences. Additionally, youth may be more willing to confide in their same-aged friends as they navigate salient problems, like ECV. Thus, these relationships may be more impactful in combating delinquency compared to family relationships or relationships with other adult role models. In all, increased friend support may be a proxy for healthier relationships, indicating less delinquent engagement, subsequently neutralizing the effects ECV. That said, our interpretation and analyses are limited by the lack of specificity in the intensity of delinquency and ECV. It could be that these results are specific to more severe kinds of ECV or delinquency rather than less severe kinds. Additional work would benefit from assessing how the intensity of these constructs may affect these results.

Implications

Our findings provide insight into the benefits and limitations of social support regarding the association between ECV and delinquency. Given our results, addressing ECV before it happens may be the best way of lessening its negative effects in addition to promoting positive peer relationships. Programs that reduce opportunities for youth to be exposed to community violence or provide youth with opportunities to foster friendships may be most beneficial (e.g., after-school and recreational programs). Youth who spend more time in enriching extracurricular programs are more likely to avoid unstructured, unsupervised time outside the home or school where ECV often occurs (Smith et al., 2016). Similarly, programs aimed at increasing adolescents' access to mentors and positive adult role models may also help to prevent delinquency in youth exposed to less severe forms of ECV. Though not a panacea, community investments may provide additional benefits to neighborhoods where ECV is common, such as an increased sense of community or new employment opportunities. In many ways, lessons from MST can be leveraged to build out social services that support these goals across a broad spectrum of adolescents who engage in delinquency. Further, more research is needed to fully assess the benefits of place-based interventions, but work thus far seems to support their implementation in relation to improved community outcomes (Hohl et al., 2019; McGowan et al., 2021). These measures may be useful in addressing ECV and delinquency as

major public health concerns, both after engagement, but also before any acts of delinquency have been carried out (May et al., 2014).

Limitations

The current study was subject to limitations. Our sample lacked adequate demographic representativeness. White adolescents were overrepresented compared to 2021 United States demographic data (*U.S. Teen Demographics*, n.d.). Additionally, our sample was largely affluent with most adolescents residing in households earning $75,000+ annually. We posit our reported rates of PECV, SECV, and delinquency are skewed and theorize such rates would be higher with a more representative sample. Extant findings note that minority and low socioeconomic status adolescents are particularly vulnerable to PECV and SECV (Affrunti et al., 2018; Lee et al., 2020; Santacrose et al., 2021). Further, higher household income often translates into living in more affluent neighborhoods where crime rates are lower and protective factors against ECV and delinquency engagement, like neighborhood assets (e.g., employment opportunities, recreational programs and facilities), are abundant (Smith et al., 2016). We believe such is the case in our sample as our largest group of adolescents by family income (n = 891, 55%; $75,000+ annually) experienced the lowest levels of PECV *(*M = 2.09, SD = 2.18*)* and SECV (M = 1.91, SD = 1.93). Our rates of 69.4% exposure to PECV (reporting at least one incident) and 73.3% exposure to SECV (reporting at least one incident) are low compared to results of more than 90% of American youth reporting ECV (Davis et al., 2020), which could see observed effects become more pronounced.

Another limitation comes with our measurement of PECV, SECV, and delinquency. The frequency of exposure and delinquent engagement was limited to single incident per type of exposure. In other words, if an adolescent was repeatedly exposed to the same kind of violence or engaged in the same delinquent behavior numerous times, their score on each construct would remain as "1." Thus, our data did not fully reflect our respondents' experiences. Our ECV and delinquency measures also did not account for differing levels of intensity in such exposures or acts. Further, delinquent engagement data was only collected for the 12 months prior to interviews, ignoring the effects of exposure and delinquency outside this timeframe. Older adolescents who engaged in delinquency prior to being interviewed would therefore appear to engage in less delinquent behaviors than their true rates. This is especially important considering age was a consistently positively associations of delinquent engagement. Collection initiatives for the NatSCEV III were carried out more than a decade ago, thus these data may not fully reflect the current state ECV and delinquency across the country. That said, the size and breadth of

this dataset are strengths, and as ongoing multidisciplinary work highlights the importance of ECV and delinquency in youth in the U.S., these findings remain timely and can help inform ongoing and future research and policy efforts. Finally, the observational and cross-sectional nature of this data also prevents us from making causal inferences.

Conclusions

The present study sought to understand the potential moderating effects of family, friend, and adult social support on ECV and delinquency in adolescents. Results suggest that increased ECV is associated with greater delinquency, whereas access to more family, friend, and adult social support were associated with less delinquent engagement. After reframing our interpretation of interaction terms, moderation analyses indicated that ECV might weaken the positive benefits of family and adult social support on delinquency, highlighting limitations to their benefits. Efforts aimed at preventing ECV or addressing its aftereffects for youth with lower levels of ECV may prove useful in preventing delinquency behavior in adolescents, particularly from the perspective of community resources. The benefits of friend social support on delinquent engagement were not reduced with increasing levels of ECV, emphasizing the importance of peer relationships during this stage. Resources that promote positive relationships in structured environments may foster relationships that promote positive behaviors and strengthen youths' access to emotional and instrumental support, prospectively curtailing delinquency associated with ECV. Future research that samples racially/ethnically diverse adolescents from varied socioeconomic backgrounds would benefit the field's understanding of the mechanisms that mitigate risk of engaging in delinquent behaviors.

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